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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,863	12/08/2003	Alan P. Sheng	VSEA 31-02	3529

7590 02/23/2005  
Mark Superko  
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Gloucester, MA 01930-2297

EXAMINER

BERMAN, JACK I

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

10730,863

<b>Applicant(s)</b>
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SHENG ET AL.

**Examiner**

Jack I. Berman

**Art Unit**

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 20 depends from claim 19, but only repeats the single limitation present in claim 19 without adding any additional limitations.

Claims 3, 11, and 17 are objected to because of the following informalities: In claim 3, "ion beam" should be two words; in line 2 of claim 11, "a scan" should read --a scan are--; and in line 6 of claim 17, "sot" should read --so--. Appropriate correction is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both independent claims 1 and 17, and therefore the claims that depend from them, contain the limitation "so that the utilization efficiency of said ion beam on said workpieces is increased." Increased relative to what? Without some standard to compare the utilization efficiency to, saying that it is increased is meaningless. It is impossible to determine what applicant is attempting to claim with this limitation, so it cannot distinguish over the prior art.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 9, 11, 12, 15, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokiguchi et al. Tokiguchi et al. teaches, at lines 7-25 in column 2 and in Figs. 2a and 2b, that an apparatus for ion implanting a plurality of workpieces (2), which are semiconductor wafers, comprising an ion source for generating an ion beam (3) having a scan width and a scan distance which defines a predetermined scan area, a holder for receiving said workpieces that are arranged so as to maximize the surface area of said workpieces present within said predetermined scan area; and a scanner (4, 5) for scanning said ion beam over said predetermined scan area so that the utilization efficiency of said ion beam on said workpieces is increased is known in the art. The scan area of this system is, as can be seen in Fig. 2b, determined by the scan width of the ion beam and the scan distance of the ion beam, which is inherently determined by the number of workpieces scanned through the ion beam.

Claims 1-3, 5, 8, 11-13, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Robinson et al. Robinson et al. discloses an apparatus for ion implanting a plurality of workpieces (52, 54), which are semiconductor wafers, comprising an ion source (10, 76, 78, 80, 96) for generating an ion beam (42) having a scan width and a scan distance which defines a predetermined scan area, a holder (48, 126, 56), which inherently comprises some type of platen, for receiving said workpieces that are arranged so as to maximize the surface area of said workpieces present within said predetermined scan area; and a scanner (92, 94) for scanning said ion beam over said predetermined scan area so that the utilization efficiency of said ion beam on said workpieces is increased. At lines 3-20 in column 4 and 33-60 in column 5, Robinson et al. teaches that a ribbon beam should be used as the ion beam to minimize overscanning of the wafers.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson et al. Robinson et al. does not specify the dimensions of the beam scan width or the diameter of the wafers, but these are obvious matters of routine experimentation.

Claims 6, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson et al. in view of Harrison. While Robinson et al. provides a plurality of wafers on a single platen (wafer wheel 126), Harrison teaches, at lines 36-38 in column 5, that a spoked wafer wheel having a plurality of platens arranged in the scan area, is functionally equivalent to such a single platen. The use of a holder having a plurality of platens instead of Robinson et al.'s single platen holder would therefore have been an obvious substitution of equivalent parts.

Art Unit: 2881

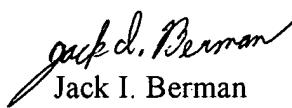
Claims 10 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:  
The prior art does not disclose the claimed formula for the scan distance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack I. Berman whose telephone number is (571) 272-2468. The examiner can normally be reached on M-F (8:30-6:00) with every second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jack I. Berman  
Primary Examiner  
Art Unit 2881

jb  
2/20/05